

Work Order ID 142719

Monday, March 21, 2016 10:10:53 AM

142719

Page 1

Item ID: D3405-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Ground Handling Lug
 Start Date: 4/5/2016 Start Qty: 8.00 ***g*** Cust Item ID:
 Required Date: 4/15/2016 Req'd Qty: 8.00 ***g*** Customer:
 Reference:

Approvals: Process Plan: *[Signature]* Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3405	Rev B								

105 0.00
105
 Purchasing
 Purchasing
 Memo
 ISSUE PO 31764
 CUT PER DRWG D3405 REV.B
 8 MAR 21 2016
 DAS
 13
 9-89

115 Receive & Inspect for Damage & Mat'l Certs 0.00
115
 Packaging
 Packaging
 Memo
 8X 5016-01-01

125 QC5- Inspect part completeness to step on W/O 0.00
125
 QC
 Quality Control
 Memo
 9
 APR 08 2016
 P.T.O.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
		OTHER : ☐							

DQA:

Date:

16.05.10



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date:

16/05/10

Work Order update only ☐

Work Order: <u>142719</u> Part No. <u>D3405-041</u> NCR No. <u>16-5694</u>		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☒							
Date: <u>16-04-04</u>		Step #: <u>105</u>		QTY Effective :			MRB (QSI042) Approval DAS 9 9-89 <u>16-04-04</u>				
Description Work Order Deviation				Disposition				Completed By <u>ac</u> <u>16/04/12</u> Lead hand / Supervisor Approval Verification DAS 38 9-89 <u>17 2016</u>			
Part was outsource to T.P.I. on P031774. At inspection some holes where found under size. Ref. to NCR 16-5694				• Re work (drill) holes to drawing. • fill out F.A.I. sheet				QC / QA Coordinator Approval DAS 38 9-89 <u>APR 08 2016</u>			
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ ☒ Supplier Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ ☒ Outside Dimensions Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved Crushing ☐ Countersink ☐ Off-set ☐ Drawing Heat Treat ☐ Cut Too Short ☐ Mislabeled ☐ Finish Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence							
OTHER :											

Work Order ID 142719***142719***

Page 2

Monday, March 21, 2016 10:10:54 AM

Item ID: D3405-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Ground Handling Lug
Start Date: 4/5/2016 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 4/15/2016 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	NC BRAKE				DAS				APR 12 2016
Brake NC	Memo	0.00			30	9			
Brake NC	1-Deburr 2-Form using DT8204 as per Dwg D3405 3- use DT9681 to check if correct forming				9-89				
140	QC5- Inspect part completeness to step on W/O	0.00							DAS
140									38
QC	Memo	0.00							9-89
Quality Control									APR 12 2016
150		0.00							
150	Large Fab								
Large Fab	Memo	0.02							
Large Fab	Weld as per Dwg D3405 use DT8484 Identify as D3405-041								16-04-27

126014

JBL

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :	MRB (QSI042) Approval		
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 142719

Monday, March 21, 2016 10:10:54 AM

142719

Page 3

Item ID: D3405-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Ground Handling Lug

Start Date: 4/5/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 4/15/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
160						⑨	16-04-23	PD	
QC	Memo	0.00							
Quality Control									
170	QC5- Inspect part completeness to step on W/O	0.00							
170						⑨	16-04-23	PD	
QC	Memo	0.00							
Quality Control									
180	White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel	0.00							
180	<i>m 134371</i>					9	φ 16-04-29	9:30	
Powdercoat	Memo	0.01							
Powder Coating	START TIME: <i>10:10</i> OVEN TEMPERATURE: <i>400°</i> FINISH TIME: <i>10:10</i>								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 142719***142719***

Page 4

Item ID: D3405-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Ground Handling Lug

Start Date: 4/5/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 4/15/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC3- Inspect Part Finish	0.00							DAS 38 9-89
190									
QC	Memo	0.00							
Quality Control									APR 29 2016
200	Identify as per dwg & Stock Location: <i>Stop</i>	0.00							
200									
Packaging	Memo	0.01							DAS 6 9-89
Packaging									APR 29 2016
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.00							
Quality Control									MCS MAY 03 2016

MAY 03 2016

MCS

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

Picklist Print

Monday, March 21, 2016 10:10:53 AM

Page 1

Work Order ID: 142719

142719

Parent Item: D3405-041

D3405-041

Parent Item Name: Ground Handling Lug

Start Date: 4/5/2016

Required Date: 4/15/2016

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP A05.09.01New issueKJ/JLM
IPP B 09.01.28 rev.B drawing EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3404-1		Manufactured	No			100	Each	40.0000	1	8			
D3404-1													
GHW/ Lug													
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					WA001			40					
					142472			40					
					138394								
D3405-041P		Purchased	No				Each	0.0000		8			
D3405-041P													
Gh Lug													
M304S11GA		Purchased	No			150	sf	123.4750	0.154	1.296842			
M304S11GA													
304/316 0.125 Sheet													
					<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>			
					MAT020			123.47498					
					M129545			26.57498					
					M129972			21.7					
					M134284			75.2					

**

**

**

APR 01 2016

DAS
13
9-89

m134604

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

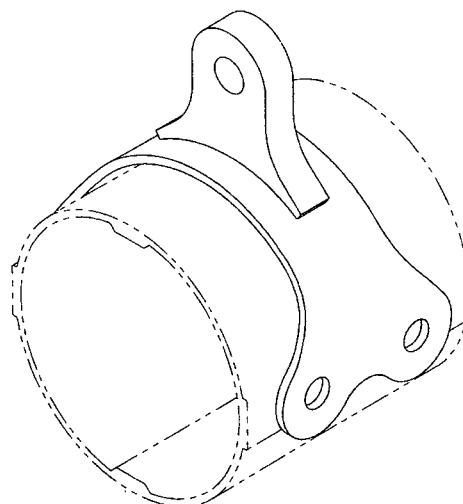
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

ITEM No.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D3405-041	LUG ASSEMBLY
2		X	D3405-043	LUG ASSEMBLY
11	1	1	D3404-1	GHW LUG
12	1		D3405-1	GHW BRACKET
13		1	D3405-3	GHW BRACKET

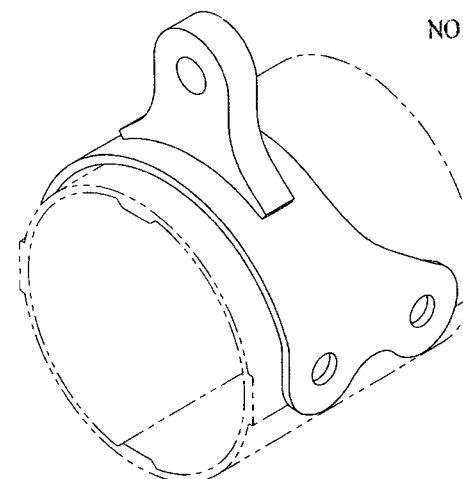
△B

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 142719 MJS

16-03-14



D3405-041 LUG ASSEMBLY
(SKID TUBE SECTION SHOWN
FOR REF ONLY)



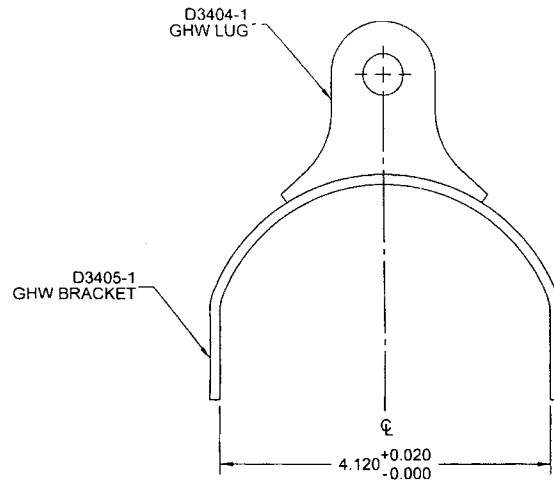
D3405-043 LUG ASSEMBLY
(SKID TUBE SECTION SHOWN
FOR REF ONLY)

RELEASED
08/12/18 MJS

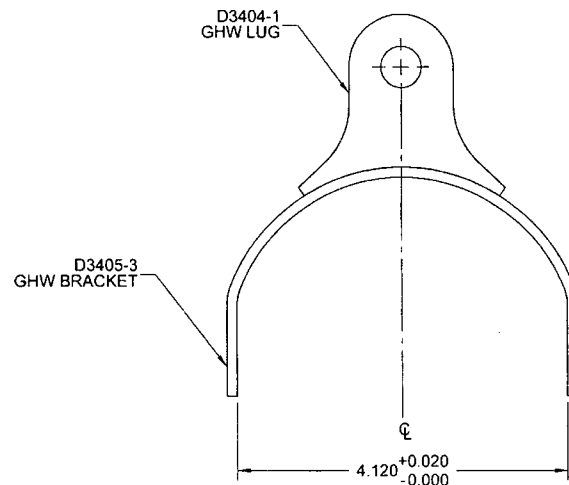
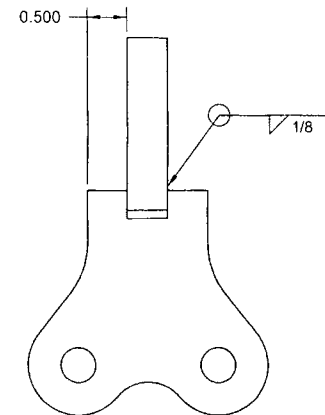
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT ASSEMBLY WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3405-041" USING FINE POINT PERMANENT INK MARKER
: IDENTIFY WITH DART P/N "D3405-043" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: -041, 0.85 lbs
-043, 0.87 lbs

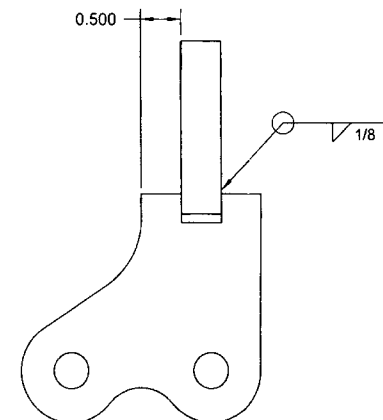
B	DRAWING REDRAWN IN SOLIDWORKS WITH CURRENT STANDARDS AND TRANSFERRED TO "B" SIZE BORDER. FLAT PATTERNS FOR -1 & -3 INCREASED IN LENGTH TO PREVENT FOULING AT INSTL (SEE PAR198). SHEETS 3 & 4 ZONE A6 4.120 DIM WAS 4.100.	AJS	08.09.19
A	NEW ISSUE	PH	05.03.08
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	MJS	DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	NTS
DATE	08.09.19	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3405-041 LUG ASSEMBLY

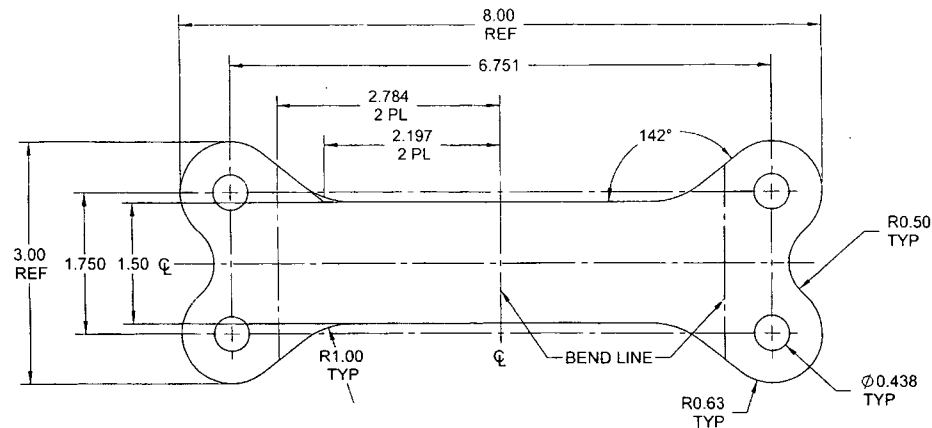


D3405-043 LUG ASSEMBLY

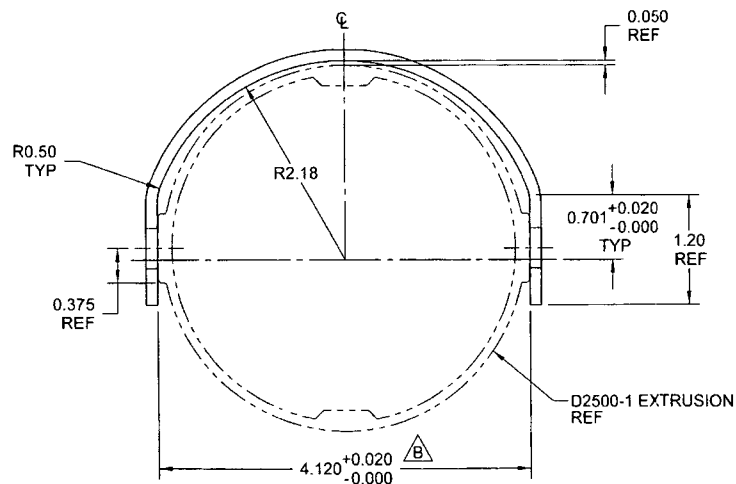


RELEASED
06/12/18 MP

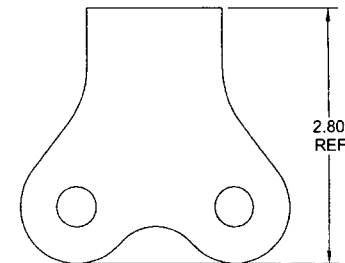
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	NTS
DATE	08.09.19	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT AUS ITEM FROM ISSUED FROM DART AEROSPACE LTD.	



D3405-1F GHW BRACKET FLAT PATTERN



D3405-1 GHW BRACKET
(MAKE FROM D3405-1F)



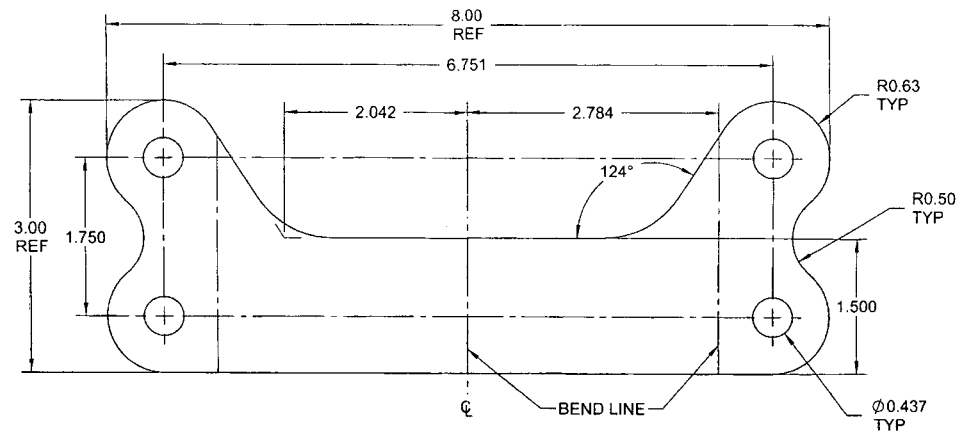
SIDE VIEW FOR REF ONLY

NOTES:

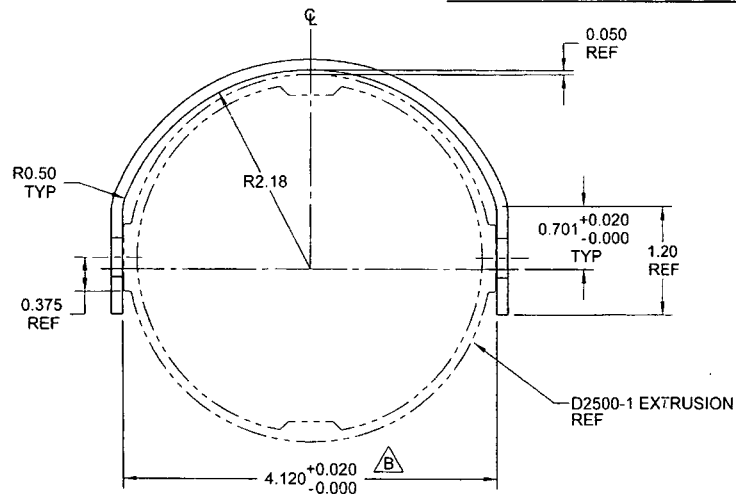
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 11 GAUGE (0.125 THICK)
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S11GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A

RELEASED
07/08/12

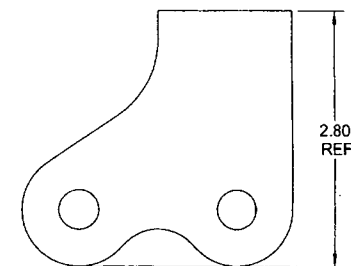
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 3 OF 4
APPROVED		TITLE	SCALE
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D3405-3F GHW BRACKET FLAT PATTERN



D3405-3 GHW BRACKET
(MAKE FROM D3405-3F)



SIDE VIEW FOR REF ONLY

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 11 GAUGE (0.125 THICK)
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524
REF. DART SPEC. M304S11GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A

RELEASED
06/12/18

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	NTS
DATE	08.09.19	COPYRIGHT © 2005 BY DART AEROSPACE LTD	
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31764**

Purchase Order Date 3/21/2016

PO Print Date 3/21/2016

Page Number 6 of 11

Order From :

VC-TP1001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Total: **\$363.80**

14 D3405-041P ✓

Gh Lug

4/6/2016

FN

32.00 ✓

\$9.35

\$299.20

Yes

Each

4/6/2016

SP16-04-01

CUT AS PER DWG D3405 REV. B

B142719 X 8 PCS

B142720 X 4 PCS

B142721 X 4 PCS

B142718 X 8 PCS

B142717 X 8 PCS

MATERIAL 304 SHEET 11 GA

Line Total: **\$299.20**

15 D3405-043F ✓

Lug Assembly

4/6/2016

6.00 ✓

\$9.45

\$56.70

Yes

Each

4/6/2016

SP16-04-01

CUT AS PER DWG D3405 REV. B

B142716

MATERIAL 304 SHEET 11 GA

Line Total: **\$56.70**

Note:

3/21/2016

T.P.I. INDUSTRIES INC.

148 GOODFELLOW
DELSON, QUÉBEC J5B 1V4
CANADA
Tel: (450) 633-0484
Fax: (450) 633-0879

Packing Slip

Packing Slip No.: 7436
Date: 2016-03-29
Page: 1

Sold to: Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada	Ship to: Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada
Order No.: 31764	Sold By: JONATHAN LESSARD
Shipped By:	Ship Date: 2016-03-30
Tracking No.:	

Item No.	Unit	Description	Quantity
D2281 ✓		jack saddle ✓	80 ✓
D2585 ✓		latch clamp ✓	65 ✓
D3637-041 ✓		bracket assy ✓	12 ✓
D4060-1 ✓		ski clamp ✓	132 ✓
D4176-1 ✓		429 clamp ✓	8 ✓
d2232-3 ✓	Chaque	d2232-3 basket hinge ✓	15 ✓
d2581 ✓		mounting bracket ✓	68 ✓
D3191-1 → DB 98-1 ✓		fitting ✓	10 ✓
D3405-041 ✓		ground handling lug ✓	Ex. 32 ✓
D3405-043 ✓		ground handling lug ✓	6 ✓
d3561-1 ✓	Chaque	d3561-1 seal insert tool ✓	6 ✓
d3912-5 ✓	Chaque	d3912-5 eyebolt plate ✓	30 ✓
d4021-1 ✓	Chaque	d4021-1 handle plate ✓	14 ✓
d4148-1 ✓	Chaque	d4148-1 crosstube lug plate fwd ✓	44 ✓
d4149-1 ✓	Chaque	d4149-1 crosstube lug plate aft ✓	20 ✓
d4150-3 ✓	Chaque	d4150-3 arm plate ✓	8 ✓
d4151-1 ✓	Chaque	d4151-1 lower hardpoint plate ✓	40 ✓
d4151-3 ✓	Chaque	d4151-3 upper hardpoint plate ✓	42 ✓

Sp 16-01

Comment: Net / 30 from date of invoice 2% svc. chg. on invoices over 30 days

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
 .1200 Nom X 48.0000" X 96.0000"
 PART NO.

PO/Rel 31741

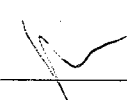
We certify that this is a true copy of the report
 furnished by the producer of the metal, or data
 resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-983229-002

21Mar16

Pg 1/1

Signed by: 



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
 740 Imperial Road North
 Guelph, ON N1K1Z3
 Canada

740 Imperial Road North

Certificate: 117938 1

Customer: 007206 001

Mail To:
 THYSSENKRUPP MATERIALS
 2821 LANGSTAFF ROAD
 CONCORD, ON L4K5C6

Ship To:
 THYSSENKRUPP MATERIALS
 2821 LANGSTAFF ROAD
 CONCORD, ON L4K5C6

Date: 11/26/2015 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/14;180Bend-OK

Your Order: PEC271093

NAS Order: WN 0072789 07

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. UNS 30400/30403
 ASTM A240/15a,A480/14b,A666/15;ASME SA240/13,SA480/13,SA666/13
 CHEM ONLY ON FOLLOWING ASTM: A276/13,A479/13a,A484/13a,A312/13
 CHEM ONLY ON FOLLOWING ASME: SA312/13,SA479/13
 AMS 5511H/5513J XMRK; MIL-5059D AMD3(X CRN MEAS); MIL-4043B
 NACE MR0175/ISO 15156-3:2009 A, MR0103/07;QQS766D-A X MAG PERM
 MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
 EN 10204:2004 3.1; RoHS 1 & 2 Compliant
 Material is Free of Radioactive Contamination
 Steel Making Process: EAF, AOD, & Cont. Casting
 Product Mfg.by a Quality Mgt.Sys. in Conf. w/ISO 9001
 *Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02X2A3 DA	02X2A3 D		.1163	48.0000	4.970	SHEETS	096.00	32	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

Chemical Analysis per ASTM A751/08

CHEMICAL ANALYSIS		CM(Country of Melt)	ES(Spain)	US(United States)	ZA(South Africa)	JP(Japan)				
HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
X2A3	US	.0270	18.2380	.3950	1.7650	.3735	.0830	8.0045	.0340	.0010
		SI %								
		.2375								

MECHANICAL PROPERTIES

Product Id#	Coil #	UTS	20C .2% VS	20C ELONG	% Hard	Tail
		KSI	KSI	%-2"	RB	Hard
02X2A3 DA	02X2A3 D	F T 92.66	44.92	51.32	86.00	87.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy
 of the test methods used, the material meets the specifications stated. These results relate only to the items
 tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
 Dept. Mgr.

ABHIJEET BHAVE

11/26/2015

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
.0750 Nom X 48.0000" X 120.0000"
PART NO.

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

21Mar16
Pg 1/1

Signed by:



No.600,Xinglong St., Jiaxing Yi., Gangshan Dist.,
Kaohsiung City 82057, Taiwan (R.O.C)

Specification/Steel Grade : DIN EN 10028-7 1.4301/1.4307_C
Surface Finish : No.2B

1. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.
2. The material described above has been detected with free irradiation.
3. NUCSO has established a QMS according to ISO 9001 which is certified by DNY CERT (reg.-no.0058-2002-AQ-RGC-RYA)
4. Inspection and gauge measurement: Satisfactory
5. The report can only be reproduced in full.
6. This certificate complies to 3.1/DIN EN 10204:2005.
7. The tests including "Tensile Test", "Intergranular Attack" (I.I. TEST) have been accredited by 4213: TESTING CERT #0958.02).

Manager of Quality Assurance Department

F. A. Hanson

JA-A-91